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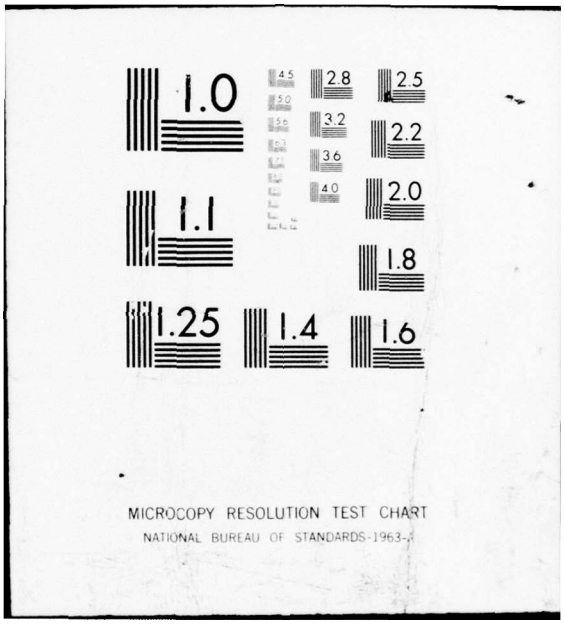
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USERS' MANUAL FOR THE ITEM ACQUISITION/PRODUCTION TRADE-OFF MODEL

COLD BASE VERSION

DECEMBER 1977

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JOINT CONVENTIONAL
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The JCAP Item Acquisition/Production Trade-Off Model is a computerized decision model written in the FORTRAN, MPSX, and COBOL computer languages. The model is designed to develop an optimum cost-readiness relationship for an end item considering all available trade-off options that might meet requirements specified by logistics guidance. The model uses integer programming to identify specific optimum cost-readiness points either by maximizing readiness for a given cost or by minimizing cost for a given readiness.

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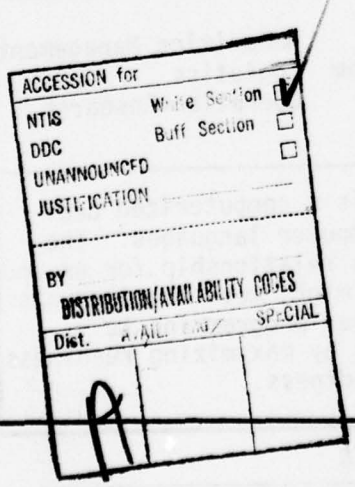
This volume contains:

(1) A detailed description of the input variables required to run the programs, how the variables are entered on the input cards, and how the cards are arranged in the deck;

(2) Output information available from the model;

(3) A sample problem with input and output; and

(4) Appendices with additional information on data collection to include definitions, sources, and coding documents.



USERS' MANUAL
FOR THE
ITEM ACQUISITION/PRODUCTION TRADE-OFF MODEL
COLD BASE VERSION

DECEMBER 1977

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USERS' MANUAL
FOR THE
ITEM ACQUISITION/PRODUCTION TRADE-OFF MODEL
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FOREWORD

In the Department of Defense environment, there is a need for the capability of evaluating the cost effectiveness of inventory acquisition and production trade-offs in the procurement process. This cost effectiveness is based on the optimum procurement plan for achieving a specified readiness. This plan is achieved by the utilization of component stockpiling and industrial preparedness measures (IPM's) and modernization investments.

To determine these optimum plans, based on joint specification by the Military Services, the Item Acquisition/Production Trade-Off Model was designed under the auspices of the Joint Conventional Ammunition Program Coordinating Group. This model has been successfully demonstrated by the Military Services.

This Users' Manual and a companion document, "The Analysts' Manual," comprise an export package which will permit the Military Services to install and use this Item Acquisition/Production Trade-Off Model.

The Users' Manual consists of an explanation of the Item Acquisition/Production Trade-Off Model concept, along with appropriate uses of the model. It also describes in detail the input variables and how they are entered and arranged. Included also are descriptions of the model output and sample formats with descriptions of data input and output.

Configuration management of the model is retained by the Joint Conventional Ammunition Program Decision Models Directorate. Proposals for modification of the model and inquiries with respect to the model application and operation should be addressed to the Director, Joint Conventional Ammunition Program Decision Models Directorate, Rock Island Arsenal, IL 61299. Telephone inquiries should be addressed to the Chief, Item Acquisition and Materiel Planning Division of that Directorate, AUTOVON 793-5980.

JOINT CONVENTIONAL AMMUNITION PROGRAM
COORDINATING GROUP

Office of the Executive Director
Rock Island Arsenal, IL. 61201

USERS' MANUAL

FOR THE

ITEM ACQUISITION/PRODUCTION TRADE-OFF MODEL

This Users' Manual and a separately published Analysts' Manual provide detailed instructions and information for the Item Acquisition/Production Trade-Off (IA/PT) Model. The IA/PT Model was designed, developed, and demonstrated by the Joint Conventional Ammunition Program Decision Models Directorate in response to requirements established by the Military Services. The model has been accepted for their use as described herein.

Although the Item Acquisition/Production Trade-Off Model was designed to assist managers in the ammunition production base area, it is applicable to any commodity when the effects of inventory acquisition and production trade-off must be evaluated by decision makers.

EDWARD J. JORDAN
Executive Director

ABSTRACT

The JCAP Item Acquisition/Production Trade-Off Model is a computerized decision model written in the FORTRAN, MPSX, and COBOL computer languages. The model is designed to develop an optimum cost-readiness relationship for an end item considering all available trade-off options that might meet requirements specified by logistics guidance. The model uses integer programming to identify specific optimum cost-readiness points either by maximizing readiness for a given cost or by minimizing cost for a given readiness.

This volume contains:

(1) A detailed description of the input variables required to run the programs, how the variables are entered on the input cards, and how the cards are arranged in the deck.

(2) Output information available from the model.

(3) A sample problem with input and output.

(4) Appendices with additional information on data collection to include definitions and coding documents.

ACKNOWLEDGEMENTS

The contributions of the following individuals to the development, modification, application, and documentation efforts on this model are gratefully acknowledged.

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SUMMARY

In May 1972 the Joint Logistics Commanders (JLC) established the Joint Conventional Ammunition Production Coordinating Group (JCAP/CG) and gave it the authority to coordinate and take action on all conventional ammunition production base activities and programs delegated by the respective commanders. The JCAP-CG basic charter was expanded in October 1974 to include conventional ammunition logistics programs and activities, and the name of JCAP/CG was changed to Joint Conventional Ammunition Program Coordinating Group. Under the sponsorship of the JCAP/CG, the Joint Conventional Ammunition Program Operating Group (JCAP/OG) has the responsibility for administering the coordinated Management System for the DoD Conventional Ammunition Logistics Activities and Programs.

As directed by the JCAP/OG, the JCAP Decision Models Directorate (JCAP-DM) designs, develops, tests and provides guidance for implementation of all decision models, both economic and non-economic, required in the joint management of conventional ammunition logistics activities and programs.

The Joint Panel Report, which led to the formation of JCAP, states the motivation for development of the Item Acquisition/Production Trade-Off (IA/PT) Model: "An economic model(s) is needed that enables the determination of the most cost effective manner to program the ammunition production base so as to minimize the amount of inventory required while maximizing the responsiveness of the production base to meet wartime needs."

There are two ways of reducing inventory or inventory costs through use of the IA/PT Model: (1) speed of production response to mobilization demands may be improved, or (2) ammunition components may be stored instead of storing end items only. The IA/PT compares costs of inventory and production response alternatives for improving readiness and identifies the least-cost alternative for management use.

The following table lists some of the end items studied during the model development/demonstration. The potential cost avoidances or savings are found by comparing the IA/PT Model solution to buying end items only.

STUDY	ITEM	POTENTIAL COST AVOIDANCE ($ in millions)
JCAP MOBILIZATION LEADTIME STUDY APRIL 1975	CBU58B Bomb (Air Force)	67.7*
	MK82 Bomb (Navy)	77.5
	105mm HE, M1 (Army)	298.0
ARMCOM COMPONENT STOCKPILE STUDY APRIL 1975	81mm, M374A2 (Army)	212.0
	155mm, M107 (Army)	201.0
JCAP MOBILIZATION LEADTIME STUDY, SUPPLEMENTAL DECEMBER 1975	5"/54 Full Charge (Navy)	21.2
	5"/54 Projectile FCC (VT) (Navy)	20.7
	76mm Cartridge HE-IR (Navy)	19.3
JCAP CBU 58B STUDY MARCH 1976	CBU 58B Bomb (Air Force)	42.9
JCAP AMMUNITION READINESS STUDY FOR THE AIR FORCE FY79 BUDGET ESTIMATE JULY 1977	MK84 Bomb (Air Force)	205.0
	CBU MK20 Rockeye (Air Force)	4.8
	30mm API (Air Force)	6.7
	30mm HEI (Air Force)	54.9
	20mm HEI M56 (Air Force)	105.6
	TOTAL	$ 1,269.6

*Total does not include first CBU 58B study

This IA/PT User's Manual was written to guide in the preparation of the data required to operate the model. The manual defines the data required, details the data formats, and describes the assembly of the data input card deck. Background information on the development of the model is also provided in the manual. A companion IA/PT Analysts' Manual has been developed which contains a mathematical description of the model, program listings, and information needed to make computer runs. For further information about the IA/PT Model and its application, the point of contact is Mr. George Martin (JCAP-DM) AUTOVON 793-5980, Commercial (309) 794-5980.

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CHAPTER I

INTRODUCTION

1-1. BACKGROUND CONCEPTS

Economic evaluations are necessary in the management of the conventional ammunition production base. Mathematical models are one of the tools available to aid the decision maker in making these evaluations. The Item Acquisition/Production Trade-Off (IA/PT) Model reflects several concepts which impact on the conventional ammunition production base management system.

a. Cold and Warm Base.

A cold base exists for an item when all facilities for production are inactive or no facilities exist for the item on D-day, (the initial day of conflict). A cold base must be supplemented by an inventory capable of supporting wartime consumption for the total number of months it takes to activate the base and bring it up to the level where all requirements are satisfied by production. On the other hand, a warm base exists when one or more facilities are producing a given item on D-day. The current version of the IA/PT Model is designed only for the cold base production environment.

b. The Post D-Day Concept.

The post D-day concept deals with logistics planning for the improvement of gross materiel readiness relative to the capability to support forces at combat consumption rates. The purpose of the post D-day concept is to provide a mechanism for level-of-effort ammunition planning that is independent of the duration of conflict but assures the defense planner a reasonable degree of readiness to meet wartime consumption. The concept allows for a balanced mix of inventory and production capability during the post D-day period. It is assumed that a sustaining rate of consumption will be achieved where ammunition will be consumed throughout a conflict of indefinite duration.

c. Inventory-Production Response Trade-Off.

(1) The production rate for an item is influenced by maintenance and layaway policies, modernization programs, component inventories and production base activities. As the production rate varies, the inventory necessary to provide for a fixed level of readiness changes. When the goal is to minimize cost, the planner should select the combination of policies, programs and inventories that meets the desired level of readiness at least cost.

(2) In Figure 1, curve R represents the requirements for an end item over the post D-day period. The time at which all requirements can be satisfied by current production is called P-day. Curve L represents the Load, Assemble and Pack (LAP) production capability for the end item and curve M represents the production capability (build-up curve) for the most constraining component. This figure shows the case where end item production is limited by a shortage of components. Both curves M and L start at 0 since a cold production base is assumed. Area B represents the end item quantity that can be produced if there is no component stockpile. For an end-item-only buy policy, the quantity of end items represented by areas A plus C must be stockpiled

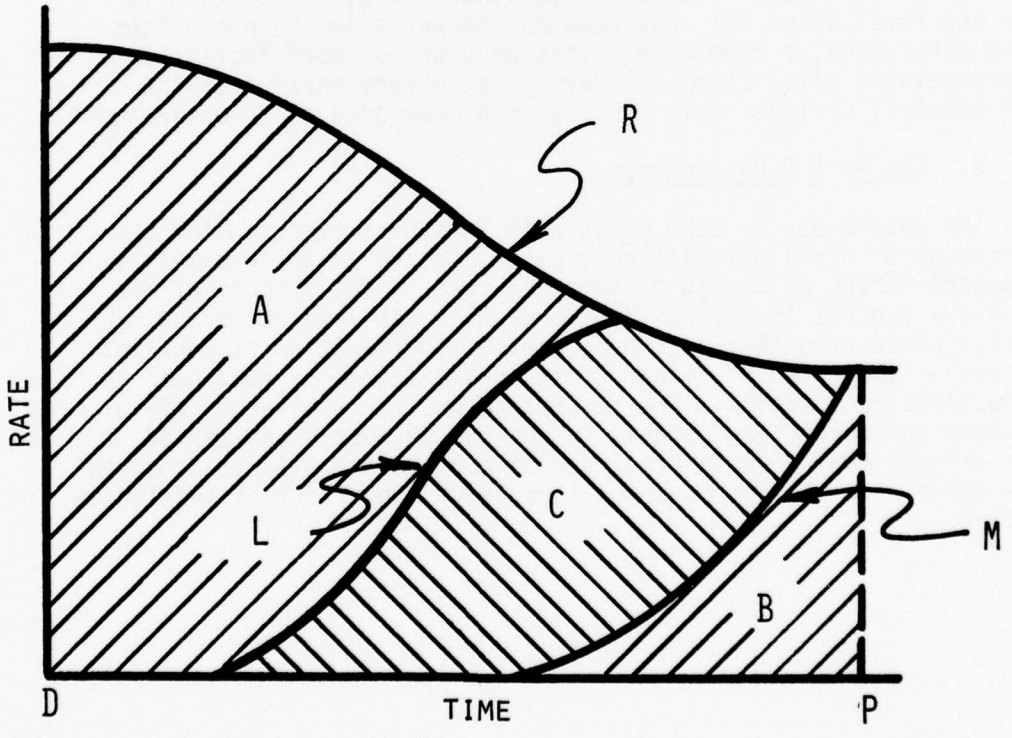

FIGURE 1 PRODUCTION RATE AND CONSUMPTION RATE VERSUS TIME (COLD BASE)

(acquired prior to D-day). However, to the extent that the LAP production capability is constrained by a lack of components, end item inventory can be decreased by stockpiling pacing components and/or by implementing Industrial Preparedness Measures (IPM's) for component production lines. Area C represents the total component inventory needed to meet LAP needs or end item inventory if an end-item-only buy policy is followed. Area A is the end item inventory if component stockpiling is allowed. An IPM is any action taken before D-day to improve production response. The total quantity of the end item required from D-day to P-day is represented by the sum of areas A, B, and C. Area A may be reduced by increasing the LAP capability through improving production response. As illustrated in Figure 2, L' represents the LAP capability resulting from the implementation of an IPM; the IPM is a "favorable action" if the difference in end item and component cost for the area between the curves L and L' exceeds the cost of the IPM.

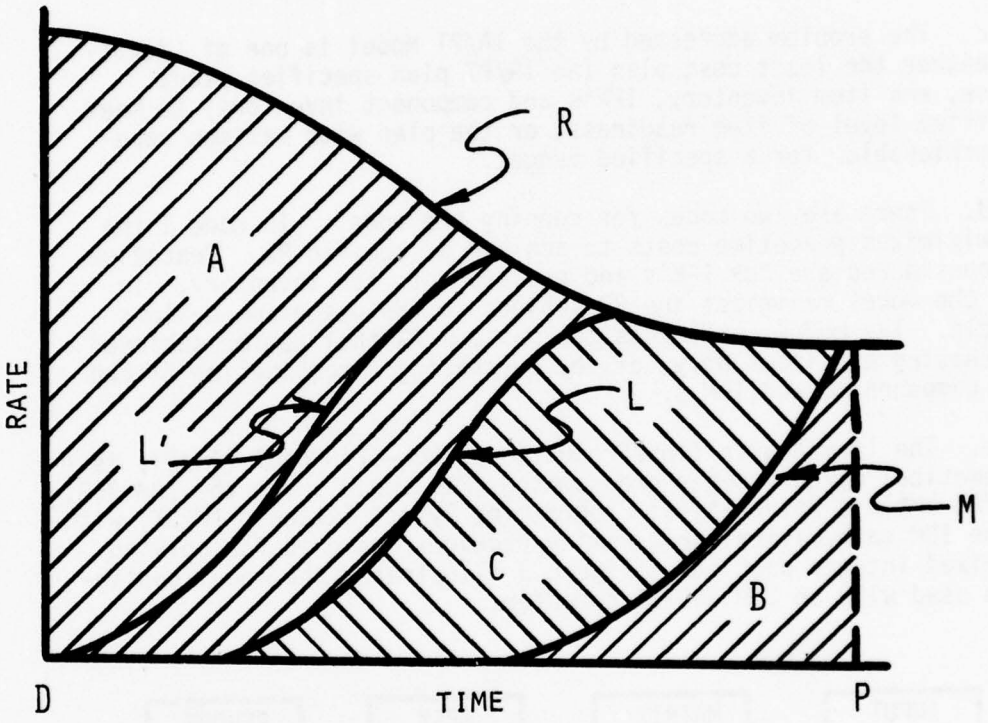

FIGURE 2 IPM TRADEOFF

d. Readiness.

(1) Readiness is a measure of the capability to support combat requirements: the quantity available compared to the quantity required.

(2) Readiness ratio (RR) is a measure of readiness assuming assets are allocated on a monthly basis so that:

1 the fraction of the monthly requirements satisfied by assets plus production has the same value (RR) for each month from D-day until all assets are allocated.

2 the fraction of the monthly requirements satisfied by production in the month after all assets have been allocated equals or exceeds RR.

(3) Readiness ratio is defined only in the interval 0 to 1. If RR = 0 there are no assets available to meet post D-day requirements. RR = 1 implies that assets equal or exceed the difference between total requirements and total production.

1-2. MODEL DESCRIPTION

a. The current version of the model is applicable only when the production base is cold on D-day.

b. The model applies to a single end item and its associated components.

c. The problem addressed by the IA/PT Model is one of identifying either the least cost plan (an IA/PT plan specifies plant response, end item inventory, IPM's and component inventory) to meet a specified level of item readiness, or the plan with maximum readiness achievable for a specified budget.

d. There are two modes for running the model. In mode 1 the model minimizes peacetime costs to achieve a specific RR. Peacetime costs considered are for IPM's and procurements for inventory. In mode 2 the model maximizes the RR subject to the peacetime dollars available. The model determines the maximum RR that can be achieved by purchasing end items only, or, by purchasing a combination of end items, components, and IPM's.

e. The Item/Acquisition/Production Trade-Off Model (IA/PT) is a mathematical mixed integer programming (MIP) model. On the IBM 360, the IA/PT employs Mathematical Programming System Extended (MPSX) with MIP, the IBM mathematical programming packages designed for solving large mixed integer problems. Figure 3 illustrates the model configuration used with an IBM 360/65 computer.

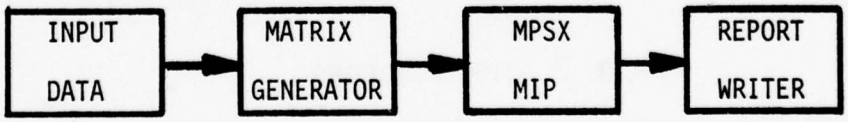

Figure 3. IA/PT Model Configuration

f. The model requires the following hardware: IBM 360/65 with card reader, printer, disk storage, and tape storage.

CHAPTER 2

INPUT

2-1. INTRODUCTION

The IA/PT model is used to analyze one end item and associated components. The model finds either the least cost combination of inventory and production response to obtain a given Readiness Ratio or the maximum RR for a given budget.

2-2. GENERAL DESCRIPTION OF INPUT

a. The data required by the IA/PT model includes mobilization requirements for the end item, current inventory assets, cost data for the item and components being studied, the production build-up rates for the production lines where the items are produced, the costs associated with the possible IPM's, and either the budget amount allocated to meet the mobilization requirements or the RR desired.

b. The input data is recorded on eight different types of input records. These records are identified as Card A through Card H. Detailed instructions on completing the eight record types are contained in the Data Input Instructions (Appendix A). The Data Element List (Appendix B) contains data element definitions.

c. Coding sheets are available to aid in the collection and organization of data and may be used by the key punch operator to prepare the input data deck. Appendix C contains samples of the coding sheets.

d. The order of assembly of the card deck is illustrated in Figure 4. The input data cards are arranged in three sections with the following general information in each section.

Header Section: Card Types A, B, C, D1, D2, and D3 contain general Five Year Defense Program (FYDP) and Mobilization Requirements (Losses, Assets, Production, Costs, etc.) for end item and components.

Product Section: Card Type E contains assets, costs and factors for allocation and procurement.

Alternatives Section: Card Types F, G, H1, H2, H3 contain production rate and cost information for end item and component lines. The end item must be the first card in the product section. The production response alternatives in the Alternatives Section must be in the same order as the IPM's would be implemented.

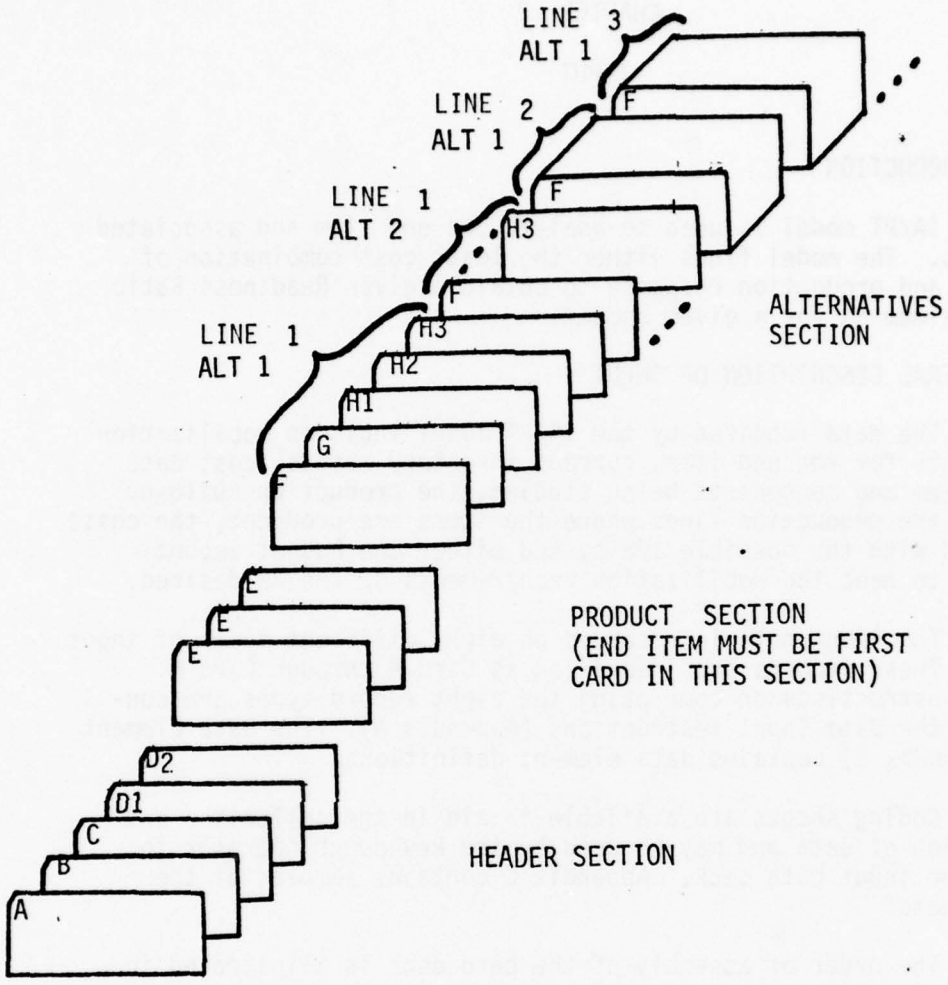

FIGURE 4 CARD DECK ASSEMBLY

2-3. NOTES ON DATA PREPARATION

a. All component production that paces (constrains) LAP must be included. A component will not influence the results of the model if all the requirements for that component can be satisfied from post D-day production. However, it is best to include all major components and let the model determine which components will affect the model solution.

b. All data should be adjusted to the start of the relevant planning period (or the same time reference). This unifies the data and provides for a common reference point for interpreting the model output.

c. Assets-on-hand represent the total quantity of the item available before any trade-offs are performed. Peacetime requirements, losses, basic load, and/or ship allowances are then subtracted to obtain the net assets-on-hand. Relative to the model, not assets-on-hand represent a "free" supply of the item since they are a sunk cost. This "free" supply will be exhausted to best satisfy requirements when the model determines the inventory to be acquired before D-day.

d. The unit cost for an item should be a fixed estimated cost for the item projected to the start of the planning period under study.

e. The allocation factor (AF) is that portion of the total production of a particular component common to other end items that is to be used for the specific end item under study. If only 50% of the total production of component A is allocated to the end item, then the allocation factor for component A equals .5.

f. The procurement factor specifies how many units of a given component are necessary to support one end item. The procurement factor should include production losses. For example, if each end item requires 3 units of component A, and 5 units of every 1000 units of component A are defective, the procurement factor is $3 \cdot (1+.005) = 3.015$.

g. Each production line for a given product often has several possible build-up curves, depending on the IPM's available. IPM's are ranked in the order which would be followed in their implementation. With reference to Figure 5: IPM A represents the removal of the first most constraining factor on production with an associated cost X: IPM B represents the removal of the second most constraining factor at a cost Y; and IPM C represents the removal of the third most constraining factor at a cost Z. After the IPM's have been ordered in this way, alternatives are established as illustrated by Figure 6. Alternative 1 represents the current build-up capability of the line and has no cost associated with it. Alternative

2 represents the build-up capability of the line after the implementation of IPM A and has an associated cost of X. Alternative 3 represents the build-up capability of the line after implementation of IPM A and IPM B; its associated cost is X + Y. Similarly, Alternative 4 represents the build-up after IPM A, IPM B, and IPM C have been implemented; the associated cost is X + Y + Z. The IA/PT will select only one of these alternatives for each line; for two lines producing an item, one alternative will be selected for each line.

IPM	Cost to Implement
A	X
B	Y
C	Z

Figure 5. IPM's

Alternative	IPM's Implemented	Cost
1	(Status Quo)	Ø
2	A	X
3	A + B	X + Y
4	A + B + C	X + Y + Z

Figure 6 Alternatives

2-4. INPUT REQUIREMENTS.

Appendix B shows the input data required.

2-5. DATA ORGANIZATION AND CODING RESTRICTIONS

a. Data Organization

The input deck is divided into three sections:

(1) Header section (card types A through D)

(2) Product section (card type E)

(3) Alternatives section (card type F through H)

b. Header Section

The header section contains general information on the study and the mobilization consumption requirements for the end item. Mobilization consumption requirements are listed on three cards by month. A 24-month period is used to standardize the input and to allow for the production response for those items with actions taken to initiate production upon mobilization (M-day actions).

(1) Card Type A contains the title of the study.

(2) Card Type B contains a short title (Title Ident); the number of products, the total number of alternatives, the date, the fiscal year budget, and other information to be completed by the analyst conducting the study.

(3) Card Type C contains initial allowances, peacetime requirements, losses and pipeline requirements.

(4) Card Types D1-D3 contain the mobilization consumption requirements.

c. Product Section

The product section contains pertinent information on each of the products (end item and components) included in the study.

(1) Card Type E contains the product name, product code, assets-on-hand, unit cost, allocation factor and procurement factor.

(2) There is one "E" Card for each product. The end item "E" card must be the first card in the product section.

(3) For a given study each product code must be unique. The code may be any letter or number.

d. Alternatives Section.

This section contains the buildup curves for all alternatives for each line.

(1) For each line, each buildup curve included in the study represents an alternative. For each line there will be one alternative for the current capability and one for each IPM added. (As shown in Figure 6).

(2) For each alternative there will be a set of five cards; one type F, one type G, three type H (H1, H2, H3) which must be kept in this order.

(a) Card type F contains the producer-line, product code, producer code, alternative code, product support code, maximum capacity, minimum sustaining rate, line allocation factor and base temperature.

(b) Card type G contains layaway cost or one-time IPM cost, maintenance cost or annual IPM costs, and IPM description.

(c) Card types H1-H3 contain the monthly production build-up schedule.

(3) If a production line is currently warm, then the first alternative for cold base will have layaway costs (a one-time cost) and maintenance costs (an annual cost) recorded on the G card.

(4) The cards for all alternatives for a given line must be kept together and must be ordered in the same sequence as the IPM implementation (See the Card Deck Assembly Example and the Card Deck Assembly Diagram, Figure 4).

(5) After the producer/line name (on the type F card), there are four codes of one character each: the product code, producer code, alternative code and product support code. Codes may be letters or numbers.

(a) The product code must be the same as the product code on the corresponding E card.

(b) Each producer of a given product must have a unique code. If a producer has more than one production line for a product, a unique producer code is required for each production line.

(c) Each alternative for a given line must have a unique alternative code.

(d) The product support code for a component is the same as the product code for the product (end item or component) of which the component is a part. The product support code for an end item is blank.

CHAPTER 3

OUTPUT

The model output provides an economic basis for selection of IPM's, maintenance programs and component stockpiling, in lieu of end item inventory by identifying the specific mix of end item inventory, component inventory and IPM's that results in either the least amount of dollars (mode 1) or the maximum RR (mode 2). The output (Figure 7 is a sample of the output) consists of two parts with the following headings:

1. IA/PT PROCUREMENT PLAN FOR END ITEM.

   a. This output table gives the quantity of each product to be acquired prior to D-day. Also listed is the unit cost for each product and the total cost for each product.

   b. The total expenditure for products to be stockpiled as a supplement to post D-day production is given on the line THE COST FOR THE PROCUREMENT PLAN IS. This stockpile will insure that post D-day requirements for the end item are met.

2. INDUSTRIAL PREPAREDNESS MEASURES SELECTED FOR END ITEM.

   a. This output table lists the IPM's selected by the model and their individual costs. The individual costs are subdivided into ONE-TIME-COST and ANNUAL-COST.

   b. The total expenditure for all IPM's is given on the line THE COST FOR ALL INDUSTRIAL PREPAREDNESS MEASURES SELECTED IS.

   c. The total cost for the IA/PT solution as calculated by the Report Writer Module is given on the line THE TOTAL COST FOR THE IA/PT SOLUTION IS. It should equal the sum of the quantities given in the COST FOR THE PROCUREMENT PLAN IS and THE COST FOR ALL INDUSTRIAL PREPAREDNESS MEASURES SELECTED IS.

JCAP IA/PT MODEL - SAMPLE DATA

IA/PT PROCUREMENT PLAN FOR END ITEM

ITEM	UNIT COST	BUY QUANTITY	TOTAL ITEM COST
End Item	$ 100.00	1,350,000	$ 135,000,000
Component 1	$ 20.00	500,000	$ 10,000,000
Component 2	$ 50.00	400,000	$ 20,000,000
	The Cost for the Procurement Plan is		$ 165,000,000

INDUSTRIAL PREPAREDNESS MEASURES SELECTED FOR END ITEM

PLANT	PRODUCT	ONE-TIME-COST	ANNUAL-COST	TOTAL-IPM-COST	DESCRIPTION OF IPM
End Item P Producer I	End Item	$ 5,000,000	$ 0	$ 5,000,000	IPM
End Item P Producer 2	End Item	$ 3,000,000	$ 0	$ 3,000,000	IPM
Component 1 Producer 1	Component	$12,000,000	$ 0	$12,000,000	IPM
Component 2 Producer 2	Component	$ 5,000,000	$ 0	$ 5,000,000	IPM

The cost for all industrial preparedness measures selected is $ 25,000,000

The total cost for the IA/PT solution is $ 190,000,000

Figure 7. Sample Listing of IA/PT Report Writer Output

CHAPTER 4

SAMPLE PROBLEM

4-1. PURPOSE

This sample is provided to aid the user by:

a. Illustrating input preparation and card deck assembly.

b. Providing an example of a typical program output.

4-2. PROBLEM DESCRIPTION

a. The sample problem involves one end item, two components, and four production lines all in cold base configuration. There are two LAP lines each with two alternatives (Status Quo or one IPM). Each component has one production line and each line has two alternatives.

b. An end item requirement of 500,000 items per month is specified for each of 24 months.

c. The objective is to meet the end item requirement with a minimum expenditure.

d. The IA/PT source documents in Appendix C illustrate the coded input data.

e. The end item is designated END ITEM.

f. The two components are designated as COMPONENT 1 and COMPONENT 2.

g. The production plants for END ITEM are END ITEM PRODUCER 1 and END ITEM PRODUCER 2.

h. The production plant for COMPONENT 1 is COMPONENT 1 PRODUCER.

i. The production plant for COMPONENT 2 is COMPONENT 2 PRODUCER.

4-3. INPUT FROM IA/PT SOURCE DOCUMENTS

a. Sheet A contains all information for the Header Section (card types A, B, C, D1, D2, D3).

b. Sheet B contains all the information required for the Product Section (card type E). Note that there is one E card for each product and that the END ITEM product is the first card in the Product Section.

c. Sheet C (10 sheets) contains the data for the Alternatives Section. Referring to page 32, Sheet C for END ITEM PRODUCER 1, note the following:

(1) The Product Code, E, denoting the item produced by the plant is the same as the Product Code for the END ITEM given on Sheet B, page 31.

(2) The Producer Code, 1, is an arbitrary code unique among all producers of END ITEM, but not necessarily unique among all producers. Note that the Producer Codes for COMPONENT 1 PRODUCER and COMPONENT 2 PRODUCER are also both 1's.

(3) The Alternative Code 1, is an arbitrary code unique among all Alternatives for END ITEM PRODUCER 1 but not necessarily unique among all producers.

(4) The Product Support, Code on page 32 is blank since the product is an end item. However, on page 36, the Product Support Code is E indicating that the product of COMPONENT 1 PRODUCER supports END ITEM. Note that the code for END ITEM agrees with the code assigned on Sheet B, page 31.

d. A computer listing of the input data as punched from the coding sheets and listed in the proper sequence for input into the model is illustrated in Figure 8.

4-4. OUTPUT

The Output (Figure 7) has two basic parts (previously discussed in Chapter 3).

a. "THE IA/PT PROCUREMENT PLAN FOR END ITEM" indicates how much of each component must be purchased before D-day and the total cost for the Procurement Plan.

b. "THE INDUSTRIAL PREPAREDNESS MEASURES SELECTED FOR END ITEM" lists the IPM's selected by the model and the total cost for all IPM's.

```
A JCAP IA/PT MODEL - SAMPLE DATA
B SAMPLE    3   8 01Oct76                  0
C          0          0            0     750000
D1      500     500       500     500     500     500       500     500  3
D2      500     500       500     500     500     500       500     500  3
D3      500     500       500     500     500     500       500     500  3
E END ITEM                E    1000000     100.00 1.000        1.000
E COMPONENT 1             1          0      20.00 1.000        1.000
E COMPONENT 2             2          0      50.00 1.000        1.000
F END ITEM PRODUCER  1    E11      300000           0 1.000  C
G          0      0       0 NO IPM
H1         0      0         50     100     200     250       300     300  3
H2       300    300        300     300     300     300       300     300  3
H3       300    300        300     300     300     300       300     300  3
F END ITEM PRODUCER  1    E12      300000           0 1.000  C
G    5000000              0 IPM
H1         0     50        100     200     250     300       300     300  3
H2       300    300        300     300     300     300       300     300  3
H3       300    300        300     300     300     300       300     300  3
F END ITEM PRODUCER  2    E21      250000           0 1.000  C
G          0              0 NO IPM
H1         0      0          0      50     100     150       200     250  3
H2       250    250        250     250     250     250       250     250  3
H3       250    250        250     250     250     250       250     250  3
F END ITEM PRODUCER  2    E22      250000           0 1.000  C
G    3000000              0 IPM
H1         0      0          0     100     200     250       250     250  3
H2       250    250        250     250     250     250       250     250  3
H3       250    250        250     250     250     250       250     250  3
F COMPONENT 1 PRODUCER    111E     600000           0 1.000  C
G          0              0 NO IPM
H1         0      0          0       0     100     300       500     600  3
H2       600    600        600     600     600     600       600     600  3
H3       600    600        600     600     600     600       600     600  3
F COMPONENT 1 PRODUCER    112E     600000           0 1.000  C
G   12000000              0 IPM
H1         0      0        100     300     500     600       600     600  3
H2       600    600        600     600     600     600       600     600  3
H3       600    600        600     600     600     600       600     600  3
F COMPONENT 2 PRODUCER    211E     550000           0 1.000  C
G          0              0 NO IPM
H1         0      0        100     200     300     400       400     400  3
H2       400    400        400     400     400     400       400     400  3
H3       400    400        400     400     400     400       400     400  3
F COMPONENT 2 PRODUCER    212E     550000           0 1.000  C
G    5000000              0 IPM
H1         0    100        200     300     400     500       550     550  3
H2       550    550        550     550     550     550       550     550  3
H3       550    550        550     550     550     550       550     550  3
```

Figure 8. Sample Listing of Sample Data

APPENDIX A

DATA INPUT INSTRUCTIONS

DATA INPUT INSTRUCTIONS

IA/PT SOURCE DOCUMENT - SHEET A

CARD A

POSITION	CHARACTERISTICS*	DATA ELEMENT	SPECIAL NOTE
1	A	card code enter "A"	
2		leave blank	
3-68	A/N	study title	left justified
69-72		leave blank	
73-80	N	sequence number	optional

CARD B

1	A	card code enter "B"	
2		leave blank	
3-10	A/N	title I. D.	left justified
11		leave blank	
12-13	N	number of products	right justified
14		leave blank	
15-17	N	number of alternatives	right justified
18		leave blank	
19-25	A/N	five year planning period Date	
26		leave blank	

*A denotes alphabetic characters (i.e. A-Z)
N denotes numeric characters
A/N denotes characters that may be either alphabetic or numeric

POSITION	CHARACTERISTICS*	DATA ELEMENT	SPECIAL NOTE
27-41	N	FY budget	right justified
42		leave blank	
43	A	Military Service Code	
44-72		leave blank	
73-80	N	sequence number	optional
		CARD C	
1	A	card code enter "C"	
2		leave blank	
3-12	N	initial allowances	right justified
13		leave blank	
14-23	N	peacetime requirements	right justified
24		leave blank	
25-34	N	losses	right justified
35		leave blank	
36-45	N	pipeline requirement	right justified
46-72		leave blank	
73-80	N	sequence number	optional
		CARD D-1 (D-2 and D-3)	
1	A	card code enter "D"	three cards required
2	N	enter "1", "2", or "3"	card 1: months 1-8 card 2: months 9-16 card 3: months 17-24
3-10	N	mobilization consumption requirements	right justified
11-18	N	mobilization consumption requirements	right justified
19-26	N	mobilization consumption requirements	right justified

POSITION	CHARACTERISTICS	DATA ELEMENT	SPECIAL NOTE
27-34	N	mobilization consumption requirements	right justified
35-42	N	mobilization consumption requirements	right justified
43-50	N	mobilization consumption requirements	right justified
51-58	N	mobilization consumption requirements	right justified
59-66	N	mobilization consumption requirements	right justified
67		leave blank	
68	N	exponent code	
69-72		leave blank	
73-80	N	sequence number	optional
		IA/PT SOURCE DOCUMENT SHEET B	
		CARD E	
1	A	card code enter "E"	
2		leave blank	
3-22	A/N	product name	left justified
23		leave blank	
24	A/N	product code	
25		leave blank	
26-35	N	assets-on-hand	right justified
36		leave blank	
37-46	N	unit cost	right justified
47		leave blank	

POSITION	CHARACTERISTICS	DATA ELEMENT	SPECIAL NOTE
48-57	N	allocation factor	positional
58-58		leave blank	
59-68	N	procurement factor	positional
69-72		leave blank	
73-80	N	sequence number	optional

IA/PT SOURCE DOCUMENT SHEET C

CARD F

1	A	card code enter "F"	
2		leave blank	
3-22	A/N	producer-line	left justified
23		leave blank	
24	A/N	product code	
25	A/N	producer code	
26	A/N	alternative code	
27	A/N	product support code	
28		leave blank	
29-38	N	maximum capacity	right justified
39		leave blank	
40-49	N	minimum sustaining rate	right justified
50		leave blank	
51-55	N	line allocation code	positional
56		leave blank	

POSITION	CHARACTERISTICS	DATA ELEMENT	SPECIAL NOTE
57	A	base temperature	"w" or "c"
58-72		leave blank	
73-80	N	sequence number	optional
		CARD G	
1	A	card code enter "G"	
2		leave blank	
3-12	N	layaway cost or one-time IPM costs*	right justified
13		leave blank	
14-23	N	maintenance cost or annual IPM costs **	right justified
24		leave blank	
25-68	A/N	IPM description	right justified
69-72		leave blank	
73-80	N	sequence number	optional
		Card H-1 (H-2 and H-3)	
1	A	card code enter "H"	3 cards needed for each production buildup schedule:
2	N	enter "1", "2" or "3"	card 1: months 1-8 card 2: months 9-16 card 3: months 17-24
3-10	N	Production build-up schedule	right justified
11-18	N	Production build-up schedule	right justified
19-26	N	Production build-up schedule	right justified

* If the alternative being described is currently warm base, enter layaway costs; otherwise, enter one-time IPM costs.

** If the alternative being described is currently warm base, enter annual maintenance costs; otherwise, enter annual IPM costs.

POSITION	CHARACTERISTICS	DATA ELEMENT	SPECIAL NOTE
27-34	N	Production build-up schedule	right justified
35-42	N	Production build-up schedule	right justified
43-50	N	Production build-up schedule	right justified
51-58	N	Production build-up schedule	right justified
59-66	N	Production build-up schedule	right justified
67		leave blank	
68	N	exponent code	
69-72		leave blank	
73-80	N	sequence number	optional

APPENDIX B

DATA ELEMENT LIST

DATA ELEMENT LIST

DATA ELEMENTS	CHARACTER ALLOCATION	DATA ELEMENT DEFINITIONS/EXPLANATIONS
1. Allocation Factor	N.8N	The fraction of the total component production capability to be allocated to the production requirement of each specific end item. The allocation factor is computed as follows: AFj = (ERi/CRj)·(PFJ) where, AFj = allocation factor for component j ERi = mobilization requirements of the end item i for the period D to D+12 CRj = mobilization requirements of the component j for the period D to D+12 PFj = procurement factor for component j
2. Annual IPM Costs	10N	The annual recurring costs for each fiscal year over the FYDP associated with the Industrial Preparedness Measure (IPM) under consideration.
3. Assets-on-Hand	10N	The total world-wide material assets of the product (end item or component) at the beginning of the FYDP.
4. Base Temperature Code	1A	Base temperature for an alternative at D-day. Enter: W for warm base C for cold base
5. Card Code	1A	A symbol used to identify card type enter A, B, C, D, E, F, G or H.

DATA ELEMENTS	CHARACTER ALLOCATION	DATA ELEMENT DEFINITIONS/EXPLANATION
6. Exponent Code	1N	A scaling factor: If requirements are given in units enter 0, If requirements are given in tens enter 1, If requirements are given in hundreds enter 2, If requirements are given in thousands enter 3 etc.
7. FY Budget	15N	Projected budget for fiscal year being considered for support of end item.
8. FYDP Date	7A/N	Start of FYDP. EXAMPLE: 01 Oct 76
9. Initial Allowances	10N	Inventory committed to a specific use but included in assets on hand. EXAMPLE: ship allowances.
10. IPM Description	44A/N	A description of the IPM applied to a specific production line.
11. Layaway Costs	10N	The one time cost to place a specified equipment group of equipment, or facility into a designated (lower) state of readiness.
12. Line Allocation Factor	N.3N	The percentage (expressed as a decimal) of the line's maximum capacity which is allotted to the support of the end item.
13. Losses	10N	Inventory reductions, other than peacetime requirements, that may be expected to occur during the FYDP (e.g. foreign military sales, washout).

DATA ELEMENTS	CHARACTER ALLOCATION	DATA ELEMENT DEFINITIONS/EXPLANATION
14. Maximum Capacity	10N	The most recent actual or estimated monthly production rate, achievable under sustained operating conditions, of an item being produced or to be produced on a production line operating for an entire month on a maximum basis.
15. Minimum Sustaining Rate	10N	The number of units of a specified item produced in one month by a specified production line, base production unit, or facility at the lowest rate of production that can be sustained without stopping production.
16. Mobilization Consumption Requirement	8N	The monthly quantity of the end-item which will be consumed for a specific month after M-day by a designated user or group of users. (Includes NATO 90-day Reserve, Mobilization Training, etc).
17. Number of Alternatives	3N	Total number of build-up curves included in study (equals number of F cards).
18. Number of Products	2N	Number of components, included in the study, plus one for the end item (equals number of E cards).
19. One-time IPM Costs	10N	The one time costs, adjusted to start of the FYDP, associated with the IPM under consideration.
20. Peacetime Requirements	10N	The average annual quantity of the end-item required to support the peacetime user during the FYDP.

DATA ELEMENTS	CHARACTER ALLOCATION	DATA ELEMENT DEFINITIONS/EXPLANATIONS
21. Pipeline Requirements	10N	The total quantity of the end item in transit. The channel of support or a specific portion thereof, by means of which materiel flow from sources of procurement to their point of use.
22. Planned Maintenance Cost	10N	A monetary amount representing the annual cost of preventive maintenance performed periodically or on a continuing basis on a piece, group of pieces of industrial plant equipment or on a facility in order to maintain the equipment or facility at a specified readiness.
23. Procurement Factor	3N.6N	The number of each component needed to produce one end-item. This factor takes into consideration production losses, bad components, etc. The procurement factor is computed as follows: $PFj = (NCi) \cdot (1+Lj)$ where, PFj = procurement factor for component j. NCi = number of components used per end item i. Lj = fraction of production loss for component j.
24. Producer/Alternative code	2A/N	A distinctive two element code. The first element identifies the producer and the second element identifies the particular build-up curve associated with the producer. (use A-Z or 0-9).

DATA ELEMENTS		CHARACTER ALLOCATION	DATA ELEMENT DEFINITIONS/EXPLANATIONS
25.	Producer-Line	20A/N	Name of producer and line under consideration.
26.	Product Code	1A/N	1 element code for product (use A-Z or 0-9).
27.	Product Name	20A/N	Name of product (component or end item)
28.	Product Support Code	1A/N	Enter the code given in 26 for the item which the component under consideration supports directly. If the item under consideration is an end item leave blank.
29.	Production Buildup Curve	8N	The month-by-month mobilization production capability during the time from M-day to M+24.
30.	Title I.D.	8A/N	An abbreviated title for the study for identification purposes.
31.	Study Title	66A/N	A brief narrative description of the study. This should include the name of end item.
32.	Unit Cost	5N.4N	The total cost of producing X units of an item divided by the number of units (X).

APPENDIX C

IA/PT SOURCE DOCUMENTS

FOR

SAMPLE PROBLEM

IA/PT SOURCE DOCUMENT - SHEET A

CARD	CODE	STUDY TITLE
A		JCAP IA/PT MODEL - SAMPLE DATA

CARD	CODE	TITLE IDENT	NUMBER OF PRODUCTS	NUMBER OF ALTNS	FYDP DATE	FY BUDGET	MILITARY SERVICE CODE	BLANK
B		SAMPLE	3	8	01OCT76		0	

CARD	CODE	INITIAL ALLOWANCES	PEACETIME REQUIREMENTS	LOSSES	PIPELINE REQUIREMENTS	BLANK
C					750000	

CARD	CODE	MOBILIZATION CONSUMPTION REQUIREMENTS	EXPONENT CODE

		MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	
D	1	500	500	500	500	500	500	500	500	3

		MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16	
D	2	500	500	500	500	500	500	500	500	3

		MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24	
D	3	500	500	500	500	500	500	500	500	3

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IA/PT SOURCE DOCUMENT - SHEET B

CARD	CODE	PRODUCT NAME	PRODUCT CODE	ASSETS-ON-HAND	UNIT COST	ALLOCATION FACTOR	PROCUREMENT FACTOR
E		END ITEM	E	1ØØØØØØ	1ØØ.ØØ	1.ØØØ	1.ØØØ
E		COMPONENT 1	1	Ø	2Ø.ØØ	1.ØØØ	1.ØØØ
E		COMPONENT 2	2	Ø	5Ø.ØØ	1.ØØØ	1.ØØØ
E					.	.	.
E					.	.	.
E					.	.	.
E					.	.	.
E					.	.	.

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE CODE	PRODUCT SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	END ITEM PRODUCER 1		E	1	1	3ØØØØØ		1.ØØØ	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	Ø	Ø	NO IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE	EXPONENT CODE
H 1	MONTH 1: Ø; MONTH 2: Ø; MONTH 3: 5Ø; MONTH 4: 1ØØ; MONTH 5: 2ØØ; MONTH 6: 25Ø; MONTH 7: 3ØØ; MONTH 8: 3ØØ	3
H 2	MONTH 9: 3ØØ; MONTH 10: 3ØØ; MONTH 11: 3ØØ; MONTH 12: 3ØØ; MONTH 13: 3ØØ; MONTH 14: 3ØØ; MONTH 15: 3ØØ; MONTH 16: 3ØØ	3
H 3	MONTH 17: 3ØØ; MONTH 18: 3ØØ; MONTH 19: 3ØØ; MONTH 20: 3ØØ; MONTH 21: 3ØØ; MONTH 22: 3ØØ; MONTH 23: 3ØØ; MONTH 24: 3ØØ	3

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE CODE	PRODUCT SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	END ITEM PRODUCER 1		E	12		30000		1.000	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	5000000	0	IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE								EXPONENT CODE
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	
H 1	0	50	100	200	250	300	300	300	3
	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16	
H 2	300	300	300	300	300	300	300	300	3
	MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24	
H 3	300	300	300	300	300	300	300	300	3

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE CODE	PRODUCT SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	END ITEM PRODUCER 2		E2	1		25ØØØØ		1.ØØØ	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	Ø	Ø	NO IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE	EXPONENT CODE

	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	
H 1	Ø	Ø	Ø	50	1ØØ	15Ø	2ØØ	25Ø	3
H 2	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	3
H 3	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	3

	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16
H 2	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø
H 3	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø

	MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24
H 3	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø	25Ø

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE CODE	PRODUCT SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	EMD ITEM PRODUCER 2		E	2		25000		1.000	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	3000000	0	IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE								EXPONENT CODE
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	
H 1	0	0	0	100	200	250	250	250	3
	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16	
H 2	250	250	250	250	250	250	250	250	3
	MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24	
H 3	250	250	250	250	250	250	250	250	3

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE PRODUCT CODE	SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	COMPONENT 1 PRODUCER	1	1	1	E	600000		1.000	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	0	0	NO IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE								EXPONENT CODE
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	
H 1	0	0	0	0	100	300	500	600	3
	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16	
H 2	600	600	600	600	600	600	600	600	3
	MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24	
H 3	600	600	600	600	600	600	600	600	3

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE PRODUCT CODE	SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	COMPONENT 1 PRODUCER	11	2	E		6ØØØØØ		1.ØØØ	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	12ØØØØØØ	Ø	IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE								EXPONENT CODE
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	
H 1	Ø	Ø	1ØØ	3ØØ	5ØØ	6ØØ	6ØØ	6ØØ	3
	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16	
H 2	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	3
	MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24	
H 3	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	6ØØ	3

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE CODE	PRODUCT SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	COMPONENT 2 PRODUCER	21	1	E		55ØØØØ		1.ØØØ	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	Ø	Ø	NO IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE								EXPONENT	CODE
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8		
H 1	Ø	Ø	1ØØ	2ØØ	3ØØ	4ØØ	4ØØ	4ØØ	1	3
	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16		
H 2	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ		3
	MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24		
H 3	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ	4ØØ		3

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IA/PT SOURCE DOCUMENT - SHEET C

CARD CODE	PRODUCER-LINE	PRODUCT CODE	PRODUCER CODE	ALTERNATIVE CODE	PRODUCT SUPPORT CODE	MAXIMUM CAPACITY	MINIMUM SUSTAINING RATE	LINE ALLOCATION FACTOR	BASE TEMP	BLANK
F	COMPONENT 2 PRODUCER	2	1	2	E	55ØØØØ		1.ØØØ	C	

CARD CODE	LAYAWAY COST OR ONE-TIME IPM COST	MAINTENANCE COST OR ANNUAL IPM COSTS	IPM DESCRIPTION
G	5ØØØØØØ	Ø	IPM

CARD CODE	PRODUCTION BUILD-UP SCHEDULE								EXPONENT CODE
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	
H 1	Ø	1ØØ	2ØØ	3ØØ	4ØØ	5ØØ	55Ø	55Ø	3
	MONTH 9	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16	
H 2	55Ø	55Ø	55Ø	55Ø	55Ø	55Ø	55Ø	55Ø	3
	MONTH 17	MONTH 18	MONTH 19	MONTH 20	MONTH 21	MONTH 22	MONTH 23	MONTH 24	
H 3	55Ø	55Ø	55Ø	55Ø	55Ø	55Ø	55Ø	55Ø	3

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